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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/549,383

09/15/2005

Pertti Lintunen

AWEK 3301

5399

7812 7590 02/02/2009
SMITH-HILL AND BEDELL, P.C.
16100 NW CORNELL ROAD, SUITE 220
BEAVERTON, OR 97006

EXAMINER

BREVAL, ELMITO

ART UNIT

PAPER NUMBER

2889

MAIL DATE

DELIVERY MODE

02/02/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/549,383	Applicant(s) LINTUNEN ET AL.	
	Examiner ELMITO BREVAL	Art Unit 2889	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 November 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The amendment filed on 11/04/2008 has been entered.

Claims 9-13 are cancelled.

The previous rejections have been withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14-15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishiguro et al., (US. Pub: 2002/0055318) of record by the examiner in view of Yamaguchi et al., (U.S. 3,803,892) of record by the examiner.

Regarding claim 14, Ishiguro ('381) teaches (in at least figs. 1, 5, and 8) a method for producing a spark plug having at least two electrodes (30, 40), in which the electrodes each include at least a base part (10; i.e. the metal housing) made of a substrate material of the spark plug, and surface part (60; i.e. the discharge member; [0053]), made of a material more durable than the substrate material, comprising the following steps: forming a blank part (best seen in figs. 5 and 8), comprising a surface part (60) and intermediate part (40), by joining the surface part (60) to the intermediate part (40); separating a part with a suitable form from the blank (best seen in figs. 5 and 8) to form the electrode of the spark plug, and fastening the part separated from the blank to the base part (10) and the intermediate part (40).

However, Ishiguro ('318) does not teach the joint between the surface part (60) and the intermediate part (40) is an explosion welding joint.

Further regarding claim 14, Yamaguchi ('892) in the same field of endeavor teaches a spark plug comprised of, in part, an explosion welding (col. 2, lines 17-18) for the purpose of having a suitable and durable welding device. Also, a device where the electrodes are bonded quickly and a very clean manner without increasing the manufacturing cost.

Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the explosion welding process of Yamaguchi into the device of Ishiguro for the purpose of having a suitable and durable welding joint. Also, a device where the electrodes are bonded quickly and a very clean manner without increasing the manufacturing cost.

Regarding claim 15, Ishiguro ('381) teaches (in at least fig. 5) the intermediate part (40) of the blank is planar and the surface part (80) of the blank is planar and consists of at least one metal of the Pt group or an alloy thereof ([0054]).

Regarding claim 17, Ishiguro ('381) teaches (in at least figs. 1, 5 and 8) a method for producing a spark plug having at least two electrodes (30, 40), in which the electrodes each include at least a base part (10; i.e. the metal housing) made of a substrate material of the spark plug, and surface part (60; i.e. the discharge member; [0053]), made of a material more durable than the substrate material, comprising the following steps: forming a blank part (best seen in figs. 5 and 8), comprising a surface part (60) and intermediate part (40), by joining the surface part (60) to the intermediate

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part (40); separating a part with a suitable form from the blank (best seen in figs. 5 and 8) to form the electrode of the spark plug, and fastening the part separated from the blank to the base part (10) and the intermediate part (40); providing a second composite member that comprises a second surface (60; i.e. the second side) part made of a material more durable than the substrate material of the base part (10) of the center electrode (30) and also comprises an intermediate part (40); fastening the second composite member to the base part (10) of the center electrode (30) so that the surface part of the first composite member is in spaced confronting relationship with the surface part of the second composite member.

However, Ishiguro ('318) does not teach the joint between the surface part (60) and the intermediate part (40) is an explosion welding joint.

Further regarding claim 17, Yamaguchi ('892) in the same field of endeavor teaches a spark plug comprised of, in part, and explosion welding (col. 2, lines 17-18) for the purpose of having a suitable and durable welding device. Also, a device where the electrodes are bonded quickly and a very clean manner without increasing the manufacturing cost.

Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the explosion welding process of Yamaguchi into the device of Ishiguro for the purpose of having a suitable and durable welding device. Also, a device where the electrodes are bonded quickly and a very clean manner without increasing the manufacturing cost.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishiguro et al., (US. Pub: 2002/0055318) in view of Matsutani (US. Pat: 5,395,273) of record by the examiner.

Regarding claim 16, Ishiguro ('318) teaches all the claimed limitations except for the surface of the blank is formed of powder consisting of at least one metal of the Pt group or an alloy thereof.

Further regarding claim 16, Matsutani ('273) teaches an electrode blank comprised of in part, a powder consisting of at least one metal of the Pt group or an alloy thereof (col. 3, lines 1 –12; see claim 4; the noble metals include Pt) in order to have a device with good corrosion resistance.

Hence, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the Pt powder of Matsutani in the device of Ishiguro in order to have a device with good corrosion resistance.

Response to Arguments

Applicant's arguments filed 11/04/2008 have been fully considered but they are not persuasive.

The applicant has made two arguments: (1), it is not enough to establish that it would have been feasible, let alone obvious, to employ explosion welding in the method described by Ishiguro et al., (2), the examiner has not suggested how explosion welding might be used to attach the ring 60 to the center electrode.

In response to the first argument: the reason one of ordinary skill in the art would consider using the explosion welding of Yamaguchi in the device of Ishiguro is the

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following: first, the areas of the electrodes would be bonded quickly and a very clean manner. Second, the process does not melt the metal, instead it plasticizes the surfaces of both metals (i.e. the noble metal and the metal that forms the electrodes). Finally, it would reduce manufacturing cost.

In response to the second argument: the examiner has withdrawn that rejection. Therefore, the argument is moot.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELMITO BREVAL whose telephone number is (571)270-3099. The examiner can normally be reached on M-F (8:30 AM-5:00 Pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Toan Ton can be reached on (571)-272-2303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

January 29, 2009
/Elmito Breval/
Examiner, Art Unit 2889

/Joseph L. Williams/
Primary Examiner, Art Unit 2889